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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,320	11/20/2001	Michael M. Barlow	532 P 058	9968

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EXAMINER

BARRY, CHESTER T

ART UNIT	PAPER NUMBER
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1724

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DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/989,320

Examiner

Chester T. Barry

Applicant(s)

BARLOW, MICHAEL M.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

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Claims 3, 7, 12 are rejected under 35 USC §112(2<sup>nd</sup>) for failing to particularly point out and distinctly claim the subject matter for which patent protection is sought. Claim 1, reciting "slots," does not provide antecedent basis for "said openings" as recited in claim 3. Similarly, Claim 5, reciting "slots," does not provide antecedent basis for "said openings" as recited in claim 7. Claim 12 cannot be understood as written. Insertion of "wherein said openings" before the last occurrence of "are" would overcome this rejection of claim 12.

Claims 1 – 3, 5 – 7, 9 – 12 are rejected under 35 U.S.C. Sec. 102(b) as clearly anticipated by USP 5250187 to Franks.

Franks describes in Fig 3 a device for the deionization of incoming water, comprising: (a) a tank 10; (b) a generally hollow distributor tube 12 in said tank for ingress into and downward movement of said unpurified water through said tank; (c) slots 39 adjacent the bottom of said generally hollow tube (12 plus frustoconical ends 37, 38) and near the bottom of said tank 10 for distributing said unpurified water out of said hollow tube; and (d) a bed of purifying resin within said tank 11, and surrounding said generally hollow tube, through which said unpurified water travels upwardly, and is deionized (col 1 line 66) to a high purity water by said ion exchange resin, as it moves upwardly through said resin, after egress from said slots 39.

Alternatively, the same is shown in Fig 1 wherein slots are on the enlarged cylindrical end of the hollow tube.

Per claim 2, the generally hollow tube is positioned substantially in the axial center of said tank.

Per claim 5, Franks also describes a method for the deionization of incoming water within a tank, comprising: (a) placing such water into a generally hollow distributor tube within said tank, for ingress into and downward movement of said unpurified water through said tube; (b) withdrawing water from said generally hollow distributor tube through slots adjacent the bottom of said generally hollow tube, and near the bottom of said tank; and (c) moving said water upwardly through said tank, and through a bed of ion exchange resin within said tank, so that said incoming water is deionized to a high purity water by upward movement through said resin after egress from said slots.

Per claim 6, the generally hollow tube is positioned substantially in the axial center of said tank.

Per claims 3 and 7, the openings adjacent the bottom of said generally hollow tube are rectangular slots. While the openings 39 of Franks' Fig 3 are shown having rounded corners rather than corners having adjacent sides intersecting at perfect right angles to one another, as shown in applicant's specification, they are taken to be "rectangular"

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insofar as their aspect ratio (length to width) is high and the longer sides appear to be substantially parallel to one another.

Should applicant narrow the scope of the claims by requiring that the tube have a uniform diameter throughout substantially the entire length of the tube, including the entire slotted opening portion thereof, such amendment would overcome the foregoing application of the Franks reference under §102. The examiner expresses no opinion whether such amended claim would be allowable. The examiner is NOT SUGGESTING that applicant narrow the scope in this manner.

Per claim 9, Franks describes a method for the deionization of incoming water within a tank, comprising: (a) placing incoming water into the top of a tank; (b) moving said incoming water to the bottom of said tank; and (c) moving said incoming water upwardly through said tank, and through a bed of ion exchange resin within said tank, so that said incoming water is deionized to a high purity water by upward flow through said resin.

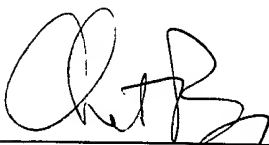
Per claim 10, the incoming water is moved to the bottom of said tank by a generally hollow tube.

Per claim 11, the generally hollow tube is positioned substantially in the axial center of said tank.

Per claim 12, the generally hollow tube includes openings adjacent the bottom of said generally hollow tube are rectangular slots.

Claims 4, 8, and 13 are rejected under 35 USC §103(a) over Franks in view of Carlson or Mitchell. USP 4670154 to Carlson suggests use of a mixed resin bed in water deionization applications so that the bed can be sized to operate for a long period of time before regeneration of the resins becomes necessary. It would have been obvious to have used a mixed resin bed in order to operate the bed for a longer period of time, as suggested by Carlson. Alternatively, it would have been obvious to have done so for any of the reasons given by USP 6534554 to Mitchell.

Respectfully,



703-306-5921

CHESTERT. BARRY  
PRIMARY EXAMINER